(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



550422

I ERBID BUILDEN IL EURIK KAN BONI BONI BUIL I KI HI BONI I ENIB BUIL BUIL KUN BUIL UNI BURKU KAN BUIL IN BURKU

(43) International Publication Date 7 October 2004 (07.10.2004)

PCT

(10) International Publication Number WO 2004/086542 A2

(51) International Patent Classification7:

H01M 8/02

(21) International Application Number:

PCT/CA2004/000437

- (22) International Filing Date: 24 March 2004 (24.03.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/457,280

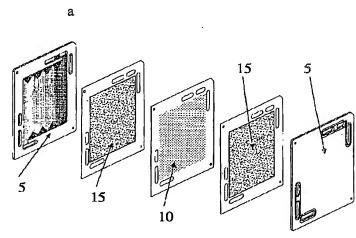
25 March 2003 (25.03.2003) U

- (71) Applicant (for all designated States except US): DUPONT CANADA INC. [CA/CA]; 7070 Mississauga Road, Mississauga, Ontario L5M 2H3 (CA).
- (71) Applicant and
- (72) Inventor: BATES, Phil [CA/CA]; 4560 Davidson Road, RR #1, Inverary, Ontario K0H 1X0 (CA).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ANDRIN, Peter [CA/CA]; 34 Sarah Street, Napanee, Ontario K7R 3X4 (CA). CHOUDHURY, Biswajit [CA/CA]; 1005 175 Bath Road, Kingston, Ontario K7M 7K9 (CA). EKHATOR, Iyobosa [CA/CA]; 2 335 Division Street, Kingston, Ontario K7K 4A2 (CA). GHOSH, Kalyan [IN/CA]; 509 247 Bath Road, Kingston, Ontario K7M 2X9 (CA). WIELAND, Helmut [CA/CA]; 721 Hillview Road, Kingston, Ontario K7M 5C8 (CA).
- (74) Agents: CLARIZIO, Dino, P. et al.; Bennett Jones LLP, 3400 1 First Canadian Place, P.O. Box 130, Toronto, Ontario M5X 1A4 (CA).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

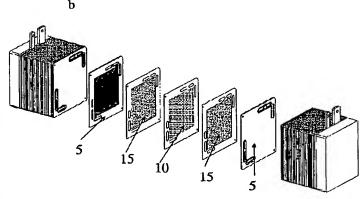
[Continued on next page]

(54) Title: PROCESS FOR JOINING A GAS DIFFUSION LAYER TO A SEPARATOR PLATE



(57) Abstract: There is provided a process for joining a gas diffusion layer to a separator plate of an electrochemical cell. The gas diffusion layer comprises a porous body that allows a reactant gas to diffuse through the gas diffusion layer. The separator plate comprises at least one landing surface formed on a surface of the separator plate, and the separator plate and landing surface comprising a polymer and conductive filler. The process includes the step of welding the landing surface to the gas diffusion layer by impregnating some of the polymer on the landing surface within a portion of the porous body.







KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,

GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.